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Novum Lumen Chirurgicum:

OR, A

NEW LIGHT OF CHIRURGERY.

Wherein is Discover'd a much more Safe and Speedy way of *Curing WOUNDS* than has heretofore bin usually practis'd.

Illustrated with several Experiments made in Flanders *in the Year* 1694.

By JOHN COLBATCH, *a Member of the College of Physicians.*

The Fourth Edition.

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TO THE KING'S Most Excellent MAJESTY.

May it please your Majesty;

THE great Experience I found of your Majesty's Bounty and Favors in the late Campagn in *Flanders*, and more especially that inexpressible one, intimated by Sir *Henry Bellasis*, I mean your Majesty's good Wishes, and Care of the meanest of your Subjects, when both his Life and Reputation were design'd to be snatched away by wicked and unreasonable Men, whom he never injur'd: These Considerations, *Royal SIR*, as they bind me perpetually to dedicate my Life to Your Service; so they also give me Incouragement to presume, the same Fountain

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Fountain of Favor and Goodneſs will allow Your *Princely Patronage* to the enſuing Sheets, which I had leiſure to write under Your *Majeſty's Banner* the laſt Summer, when there was little Action in the Field.

I am ſenſible every new *Hypotheſis* is at firſt exploded; and my Medicins being intirely new, as well as the Method of their Uſe and Application, I muſt meet with a Legion of Opponents; which makes me the more to ſtand in need of Your Royal Support; but yet I beg it no further in this caſe, than that they may have fair Play, and a clear Stage: Let them ſtand or fall as they deſerve; ſince I am aſſured they will ſtand the moſt ſtrict Examination, and ſeverest Teſt.

I know that all Arts and Sciences in every Age find a beneficial Improvement by Ingenious Inquirers: and that the Art of *Chirurgery* (as it has bin hither to practiſed) did never arrive to the *Zenith* of its Perfection, I have made bold in the ſubſequent Diſcourſe, to affirm

In which Position I am the more confirm'd, when I reflect upon the Modern Discovery of the *Circulation* of the *Blood*, by the Learned Dr. *Harvey*; before whose time a Man would have bin accounted a distracted Person, that should have aver'd that all the Blood in a man's Body should pass thro his Heart fifty times in an hour. And much greater Discoveries and Improvements, since St. *Paul* went coasting to *Rome*, are found out in the Art of *Navigation*, by the assistance of the *Compass*: for now every Cabin-boy can demonstrate the verity of *Antipodes*; tho formerly a Learned Prelat, who first preached that Doctrin, was accounted an Impostor, and severely censur'd for the same.

I pretend not, *SIR*, to establish my new Doctrin by working of Miracles; but I hope I may with modesty enough be positive in my Assertion, That the Method of *Chirurgery* hitherto used is not the best: That all *Probes* and *Tents*, all *Digestive* and *Suppurating Medicins*, all *Cauterising* and strait *Ligatures* are injurious

to their Patients, and procraſtinate their Cure. I am alſo certain that my Medicins will cure any Wounds, whether in the Fleſh, or within the Cavity of the Body, where as dangerous Wounds were ever cur'd by any former Applications, and that with much greater ſpeed and ſafety to the Patient, ſince they prevent Fevers and Mortifications.

If my Medicins prove any way beneficial to Mankind in general, I ſhall be abundantly ſatisfied and rewarded; having no higher Ambition than that I deſire to be accounted, what I ſhall ever endeavor to approve my ſelf,

ROYAL SIR,

The Moſt Obedient of Your

Majeſty's Subjects and Servants,

JOHN COLBATCH

TO THE READER.

FRiendly Reader, *I have for about ſeven Years applied my ſelf with all Heartineſs and Vigor, to the making of ſuch* Experiments, *whereby I might be capable, in ſome meaſure, to relieve the Neceſſities of thoſe who labor'd under ſuch Diſtempers, as, by the Methods and Medicins generally uſed, are, if at all, yet very difficultly to be cured: And I thank God, my Labors have not bin altogether ineffectual.*

Amongſt the Multitude of my Experiments, I thought it might not be loſt labor to attempt ſomething in order to be ſerviceable to thoſe Worthy Perſons, *who out of a Principle of Bravery, and Love to their Country, do run themſelves into the utmoſt hazard of their Lives; who, if they chance to be wounded, tho but ſlightly, are thereby often afflicted worſe than by Death it ſelf; nay frequently, after they have indur'd the greateſt Torture and Miſery, Death at laſt puts a Period to all.*

Having at length lighted upon a pair of Medicins, *the one* Internal, *and the other* External, *which I ſuppoſed would anſwer my Intentions; I began to make Experiments upon* Dogs *and other* Animals, *wounding them in the moſt deſperate manner I could contrive: and in about a Hundred that I made, I had not above five that miſcarried, three of which were before the Right Honorable the Lord* Cutts; *but* two *of thoſe three, as I can plainly make appear, after the danger was over, were* poiſon'd. *I was likewiſe much abus'd in a Soldier of his Lordſhip's Regiment, who after my Medicins had ſet him free from all ill Symtoms, and he almoſt well, in my abſence for four or five hours (having before for five Days and Nights bin conſtantly with him, for fear of Roguery) was made drunk, but by whom I know not, and in an hour or two after my return died.*

My failing in theſe laſt Experiments, I ſuppoſe, was the reaſon I was not then imployed by his Majeſty. However, being ſufficiently ſatisfied of the worth of my Medicins, by my ſucceſs in the Multitude of Experiments I had before made upon Dogs, and two or three upon human Bodies; I laid out a large Sum of Mony in preparing a good quantity of them; and with them, at my own charge, I went to Flanders. *When I came there, His Majeſty was moſt graciouſly pleaſed, by a public Order throout the Army,*

Army, to give me an opportunity of making appear the Truth of my Pretenſions; and, thanks to God, among the great number of Patients I had, there was but one miſcarried; and how he died I cannot tell, being my ſelf at that time ill almoſt unto Death, and ſo not capable of looking after him.

The Malice of ſome People againſt me is ſufficiently known; but of this I am ſure, that not one Patient I had in Flanders, *but will contradict that printed Relation (in the* Philoſophical Tranſactions *for* February *laſt) with Mr.* Cooper's *name to it; wherin he pretends to tell the World, That my External Medicin is the greateſt* Cauſtic *imaginable. Now the Nature of all* Cauſtics *is to create great Pain, but of my Medicins the quite contrary; for inſtead of that they are the greateſt* Anodyns, *or eaſers of Pain that I ever met with. One very ſignal Inſtance wherof you will ſee in my Experiment made before Sir* William Ruſſel, *&c.*

My Medicins where they are timely enough, and regularly uſed, cure all ſorts of Wounds, without bringing them to Suppuration; *but where that is once begun, they will ſoon cauſe a diſcharge of the digeſted Matter, and bring the Wound to a ſtate of healing: Nay, where Wounds have bin brought to Suppuration, and in a very ill condition, which, by the common Methods,*

thods, would have taken many weeks before they were, if at all, to be cur'd; by my Medicins, as in the caſe of the Soldier of Sir James Leſley's *Regiment, and that of Colonel* Coy's, *hereafter related,* &c. *it has bin perform'd in a ſmall time.*

In ſome Gun-ſhot Wounds, *where the Bones are extremely ſhatter'd, by the common Methods, the bringing away of broken Splinters is extremely hazardous and troubleſom, but by my Methods not ſo; tho ſuch Wounds require a much longer time before they are well than others: but who in ſuch Caſes will not have a little patience, when he is free from Pain, and under no confinement? All the Patients I have had under theſe circumſtances, have bin fatigu'd with long Marches, expoſed to Wind and ill Weather, and indured all other ſorts of Hardſhips, which may have occaſioned their being longer in Cure than otherwiſe they might have bin.*

The number of Experiments I have related, tho I might have added many more in the enſuing Tract, is not great; but thoſe that are, I ſuppoſe may be ſufficient to demonſtrate the Truth of my Pretenſions; which are, That all curable Wounds may be cured with much more eaſe and ſpeed than by the common Methods; and that a great number of thoſe Wounds uſually accounted mortal, are not ſo: And likewiſe, that the ſtopping of great Fluxes of Blood, the nonperformance of which

which coſts many People their Lives, is to be performed with the greateſt eaſe imaginable.

I have bin ſufficiently deter'd from proſecuting my juſt Deſigns for the good of Mankind; *having firſt of all, beſides many other great Affronts, bin publicly threatned to be* murdered; *afterwards my ſelf with two of my Friends were ſecretly* poiſon'd, *one of whom in a ſhort time died in a moſt miſerable condition, and we two who ſurvive narrowly eſcap'd with our Lives. However, the utmoſt malice of theſe pernicious People ſhall never hinder me from going on in my honeſt Undertakings.*

Tho I have met with this ill treatment from ſome mean, ill principled People; yet I muſt own that the Engliſh Army affords a great many Chirurgeons, *who are Men of extraordinary Worth and Candor, from ſome of whom I have received very civil treatment.*

I have purpoſely omitted the uſing of any, or at leaſt very few terms of Art, *but have made every thing as plain as I can; my deſign not being to gratify and pleaſe Critics, but to ſatisfy Gentlemen of the Truth of matter of Fact.*

As for my not mentioning what my Medicins are, with the manner of preparing them, I hope for the preſent that will be excuſed, becauſe every one knows where to be furniſhed with them ready to their hands.

But

But some may say it looks too like a Quack *to give large Encomiums of those Medicins which I have not made public to the World. To which I answer, that some mens Censures I value not, having so many great Precedents before me, who gave large and deserv'd Encomiums of those Medicins they made not public during their Lives, some of them not at all; and yet their Medicins were of general use and reputation, as* Helmont's Mercurius Diaphoreticus, Willis's *Preparation of* Steel, *and Tincture of* Sulphur, Needham's Panacea, *&c.*

I have not at this time, neither have I had for these two years last past, the least interest or concern in the Medicins here recommended; yet at the same time I am not asham'd to let this Piece come abroad a fourth time. The Experiments are every one of them true to a tittle as they are related; and for the Hypothesis, *I shall not desert it, till some body substitutes a better in its room.*

From my House in *Villers-street, York Buildings.*

Novum Lumen
CHIRURGICUM.

HAving for a long time bin much diſſatisfi'd with the common Methods of Chirurgeons in the Cure of Recent Wounds; and almoſt every day obſerving the Inconveniences that attended thoſe People who had occaſion to make uſe of them; for my own ſatisfaction, and the good of Mankind, I took into conſideration, whether their Methods were agreeable to Reaſon, and the Subject upon which they wrought. At laſt I was fully ſatisfy'd, that their Practice was moſt unreaſonable; which I ſhall endeavor to evince with as much brevity and accuracy, as the Unſetledneſs of my preſent Condition will admit: which when I have don, I ſhall lay down my own *Hypotheſis*, and doubt not to confirm it both by Reaſon and matter of fact, which is the moſt clear ſort of demonſtration. For the right performance of which task, I muſt firſt give a ſhort account of *Nutrition*, without which my preſent Undertaking will be altogether maimed and imperfect.

To give an account of the Nutrition of Human Bodies, or of other Animals, in ſo clear a manner

manner as ought to be don, I ſhould firſt begin with the Formation of the *Fœtus*, and its original conſtituent parts, with the manner of its Nutrition and Increaſe before all the parts are perfect, and how after, till the time of Birth; the performance of which task only is ſufficient for a Volume: Therfore I ſhall content my ſelf with obſerving only, how what we eat and drink is prepar'd in the Stomach and other Digeſtions, and ſo fitted to ſupply the defects of all the parts of our Bodies; which, tho the moſt hard, continually ſuffer both a decreaſe and increaſe; nay, even in the terms of Chirurgeons upon another occaſion, loſs of Subſtance, and ſupply of that loſs.

The ſolid Food we eat being well chew'd in the Mouth, is there mixed with a Juice contained in the *Glands*, which are in great numbers diſperſed all over the Mouth and parts adjacent; which Juice, being what we call *Spittle*, is highly impregnated with a penetrating *ſaline Spirit*: a demonſtration of the Truth of which is evident in a known and very common Experiment, which is as follows. Let a ſmall quantity of *Mercury* be put into a Mortar, ſpit upon it, and grind it very well with a Peſtle, and the Mercury will preſently be (according to the vulgar expreſſion) kill'd. The like to which nothing we know of will do, but thoſe things which manifeſtly are of a ſaline nature, and that of the Tribe of *Acids* too; for all Alkalious Salts have a quite different effect.

The

The Meat, as above, being well chew'd, and afterwards convey'd into the Stomach, and there diluted with a proper Vehicle, as Wine, Ale, *&c.* (the more generous the better) is, by the means of the foreſaid *ſpiritucus*, ſaline Liquor, (the heat of the Stomach likewiſe aſſiſting) divided into ſuch minute Particles, as conſtitute that viſcid Liquor we call *Chyle*; which Chyle is diſcharged out of the Stomach ſo faſt as it is made, by means of the Liver, which conſtantly preſſes upon it thro the *Pylorus* into the *Inteſtinum duodenum*, where, and in the *Jejunum*, it is further attenuated by the intervention of the *Pancreatic* Juice and the Gall, which by the fulneſs of the Stomach are ſqueez'd out of thoſe Veſſels that contain them into the aforeſaid Guts; from whence the finer parts of this attenuated Liquor are receiv'd into a certain kind of Veſſels we call *Lacteal* or milky Veins, which are in vaſt numbers inſerted into the aforeſaid Guts: the groſſer part, by the *Periſtaltic* motion of the Guts, is carried downwards to be caſt away as Excrement.

Now what is received into the Lacteal Veſſels, is carried on to the common receptacle of the Chyle in the *Meſentery*; from whence by a very large Veſſel, called the *Thoracbic Duct*, into the *Subclavian* Vein; thence, together with the returning Blood and *Lympha*, into the *Vena Cava*, and ſo to the right Ventricle of the Heart; whence, by the *Syſtole* or Contraction

traction of the Heart, thro the Arteria Vein, into the Lungs; where, by the Contraction and Dilatation of the Lungs, it is mix'd with the Blood, and that part of it which is fit for that purpose, is there made Blood: The rest only remains confusedly mixed with it, and is used for the Nutrition of the parts, being what we call *Serum*. The Blood, as I apprehend, is not at all made use of for the Nutrition of the parts, but is that red Substance, wherein is contain'd the *Biolicnium*, or Lamp of Life, to which it is a sort of *Pabulum*.

I confess some say that *Heat* and *Fire* proceed from nothing else but the parts of Matter being put into violent motion; and others, that there can be no such thing as a Flame in our Blood, because a sufficient quantity of Air cannot pass thro the Coats of our Veins and Arteries, or any other way enter into the Blood to keep that Flame burning: so that the Heat we feel in our Bodies, proceeds from nothing else but the violent motion of the Blood thro the Veins and Arteries.

To which I answer, that having several times tried, by the most violent Agitation of many fluid Bodies in inclosed Vessels, I could never perceive the least warmth; nay I have kept Blood as it came warm out of the Vein in continued violent motion, and instead of hindering, it has facilitated its cooling.

But for that Fire, which I judg to be in the Blood, I suppose it quite different from com-

mo

mon *culinary* Fire, and burns by quite different means, and has a different *Pabulum.* For it is well known, that Blood by Diſtillation yields but a very little of any ſuch ſubſtance as will afford ſupply to common Fire; and yet from Blood, and that Excrement of it we call Urin, by a peculiar management, may be obtain'd that ſubſtance we call the *Phoſphorus*, which is as much Fire as any thing we know, it being ſo inflammable, that unleſs it be immerg'd in Water, it preſently conſumes all away in Flame. There is an old Maxim, that *Nil dat quod in ſe non habet*; which is very pertinent to the point in hand: and from whence I infer, that if there were not Fire in the Blood actually before, I cannot underſtand how this moſt firy Subſtance can be obtained from it.

But there ſtill lies a mighty Objection in my way, which I ſhall endeavor to clear before I go on. It is this: Suppoſe the heat of the Body proceeds from this firy ſubſtance in the Blood; how coms it to paſs, that in many caſes, as in Wounds, when matter is generating, *&c.* the motion of the Blood and heat of the Body is greater than at other times, when that matter, which enters into the Blood, and cauſes this hurry and diſorder, has no tendency to increaſe the Flame?

To which I anſwer, that tho ſuch Particles entring into the Blood, may increaſe the heat and motion of it; yet it is not out of any na-

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tural tendency they have *per ſe* ſo to do; but accidentally they may do it, by cauſing an inteſtin motion or fermentation, wherby the *Cement* of the Blood being looſned, and its Texture much ſpoiled, this Flame is at liberty to burn more furiouſly. An inſtance of which may be ſeen in common Fire: for if the combuſtible matter of which it is to be made, be laid cloſe together, it will ſcarce burn at all; but being laid at a little diſtance, it preſently burns briskly. And if it were not ſomthing more than mere motion a little excited, which is the cauſe of Fevers, I cannot underſtand how a very fat Perſon in a violent Fever ſhould in a few days be reduced to almoſt nothing but Skin and Bones, when the viſible Evacuations of *Urin* and *Stool* are generally leſs than at other times; which frequently happens. Now it is well known, that no Liquors will ferment, but thoſe which manifeſtly abound with firy Particles, as all ſorts of vinous Liquors; and the ſtronger all ſuch Liquors are, the more readily they ferment.

The confuſed mixture of *Blood* and *Serum* (I ſtick not to call it a confuſed one, becauſe with good Glaſſes the Blood may be ſeen flotting in the *Serum* in the form of ſmall *Globules*) is carried back from the Lungs by the *venal Artery* into the left Ventricle of the Heart, and from thence protruded by means of the *great Artery*, which is immediatly divided into a great many branches, to all parts of the

* Body,

Body, even the moſt minute; the Bones themſelves not being deſtitute of Arteries to bring this mixture to them for their Nutrition, and Veins to carry back what is ſuperfluous.

The manner of Nutrition I conjecture to be as follows. The Arteries, which, as before obſerv'd, at their Origin are very large, are at laſt divided into an almoſt innumerable company of ſmall Branches, even ſo ſmall, that the beſt Glaſſes will ſcarce diſcover them to us. At the extremities of theſe ſmall Arteries is that compound Liquor we call *Blood*, diſcharged upon or into the *Muſcular Fibers*; and not only the ſoft parts, but even the Bones themſelves are obſerved to be fibrous; which Fibers, tho never ſo ſmall, are yet hollow. Now there are vaſt quantities of the ſmall Particles, which compoſe not only the fluid, but alſo the moſt ſolid Parts, continually diſcharg'd by inſenſible Tranſpiration. And *Sanctorius*, that famous *Roman* Phyſician, in his nice Experiments obſerves, that we waſte more every day by inſenſible Tranſpiration thro the *Pores*, than by the viſible, ſenſible Evacuations of *Urin* and *Stool*. The waſte made by inſenſible Tranſpiration, is repair'd by the *homogeneous* part of that Liquor, contain'd in the Arteries, commonly called *Serum*; which Serum is adapted or made fit by the Pores of the parts it is brought to, to be applied to ſuch places where there is any

waſte. But how the parts of matter are modified and adapted ſo as to conſtitute a Body, I think would be arrogance in me to pretend to define; but that Bodies of very different natures may, and do receive nutrition and increaſe from one and the ſame ſubſtance, which in it ſelf ſeems to be ſimple and *homogene*, the following Experiments (the one a common one, and known to every body, the other two made by two of the greateſt Men theſe laſt Ages have afforded, *viz. Helmont* and *Boyl*) will I ſuppoſe clearly demonſtrate.

Let a *Crabtree ſtock*, which has ſix branches, have into each branch a Graft ſet, each Graft of a different nature; as for inſtance, let three of the grafts be of *Pears*, each of a different ſort, and the other three of *Apples*, ſom ſweet, ſom ſour; and the Juice brought up into the Stock (which, had the top bin left on, would only have produc'd Crabs) being brought now into the Grafts, is by their Pores ſo alter'd, that it affords not only nutrition and increaſe to the Grafts, but inables them to bring forth Fruit, each according to its kind: which ſight I have ſeen with great delight.

The ſecond Experiment was made by that great Inquirer into Nature's Secrets, *Helmont*, as follows. He took two hundred Pound of *Earth* dried in an Oven, and having put it into an Earthen Veſſel, and moiſten'd it with

* Water,

Water, he planted in it the branch of a *Willow-tree* of five pound weight; this he watered as need required with Rain, or with diſtilled Water: and to keep the neighboring Earth from getting into the Veſſel, he uſed a Plate of Iron tinn'd over, and perforated with many Holes. Five Years being effluxed, he took out the Tree and weigh'd it, which, computing the Leaves that fell four *Autumns*, he found to weigh one hundred ſixty nine Pounds, and about three Ounces: And having again dried the Earth it grew in, he found it wanted of its former Weight of two hundred Pound, only about two Ounces; ſo that one hundred ſixty four Pound of the Roots, Wood, and Bark, which conſtituted the Tree, ſeem to have ſprung from the Water only.

The third Experiment, being Mr. *Boyl*'s, was this. He ordered his Gardiner to dig up a convenient quantity of good Earth, and dry it well in an Oven, to weigh it, and then to put it into an Earthen Pot, almoſt level with the ſurface of the Ground, and to ſet on it a ſelect Seed of *Squaſh*, which is a kind of *Indian Pompion*, that grows apace; this Seed he order'd him to water only with Rain or Spring-water. The Plant flouriſh'd and grew apace; and tho ſown too late in the Year by two months, yet being gather'd at the proper Seaſon, the *Pompion*, *Stalks*, and *Leaves*, weigh'd three Pound wanting a Quarter;

then he took the Earth, and dried it nicely, and found it weigh exactly as much as before.

As a confirmation of the Truth of the two laſt Experiments, every body knows, that *Mint*, and ſuch like Plants, being ſet in a Bottle of Water, flouriſh as much, or more than thoſe planted in the Earth. Now theſe Vegetables, tho they receive their nutrition and increaſe from ſo ſimple and *homogene* a ſubſtance as Water; yet by a Chymical *Analyſis*, there may be obtained from them ſuch ſubſtances, as are not eaſily to be mixed with Water, and ſeem to be of a quite different nature from it: nay, the very ſame ſubſtances, for the moſt part, may be obtain'd from Vegetables as from Animals, if they are rightly managed. For tho volatil urinous Spirits are generally own'd to be the product of animal ſubſtances only; yet I well know, that from almoſt all ſorts of Vegetables, without any addition, only ſuffering them to putrefy, may be obtained a Spirit and volatil Salt, no way differing from that of *Hartshorn*, and human Blood. From all which I gather, that if the great variety of Vegetables, which are of ſuch different natures, have their nutrition and increaſe from ſo ſimple a Body only as Water; I know no reaſon to doubt that all the parts of a Human Body, or other Animals, may have their nutrition and increaſe from the Serum of the Blood, which is analogous to Water.

When

When there is, by any accident, a Diviſion made in the fibrous parts of the Body, which is what we call a Wound, (and by the way I think there is no difference, only *ſecundum majus & minus*, between thoſe waſtes made by *Tranſpiration* which are natural, and a Wound made by *Force* which is preternatural) Nature her ſelf would in a ſmall time make a Union, if ſhe was not hinder'd, but aſſiſted. Now I ſhall endeavor to make appear, that by the common Methods and Medicins of Chirurgeons ſhe is hinder'd, but aſſiſted by mine; which is all not only in this caſe, but in all others where Nature is oppreſt, that is requir'd of Phyſicians or Chirurgeons; who are, or at leaſt ought to be Miniſters of Nature, and not her Oppreſſors.

Now to ſhew wherin lies the unreaſonableneſs of the common Methods of Chirurgeons in the Cure of Wounds, and wherin they hinder and oppreſs Nature in her moſt regular Operations: Suppoſe a Wound be made, and it's no matter where it is; for what will cure a Wound in one place, will do it in another, the matter brought for the nutrition and ſupply of all the parts being the ſame. The two Experiments before mention'd are ſufficient to confirm, that what will afford nutrition and increaſe to a muſcular fleſhy part, may do the ſame to a Bone; for the *Pompion* is a ſoft Subſtance like muſcular Fleſh, and the *Willow* a hard brittle ſubſtance, analogous to that of

Bones; and yet both had their nutrition and increaſe from Water only.

Now let a Wound be made where it will, and how it's made matters not, whether it be by Cutting or Contuſion; only there is this difference between thoſe Wounds called *inciſed*, and thoſe called *contuſed* ones, (tho by the way, I think I may ſafely affirm, there is no Wound made by inciſion but may as properly be called a contuſed one, let the Inſtrument be never ſo keen with which it is made, as a Wound made with a Bullet; but not in altogether ſo eminent a manner, the difference being only *ſecundum majus & minus)* that there is a larger ſpace between the Lips of the one, than of the other; and conſequently Nature is at more charge and trouble, and requires longer time for making a Union of the one than of the other. For tho in both there requires the generation of freſh ſubſtance; yet in Gun-ſhot Wounds there is a greater quantity to be generated than in inciſed ones, the Lips of the Wound being further aſunder; and ſo of conſequence the more work there is to be don, the longer time Nature requires for the doing it.

Let a Diviſion be made in any of the parts of the Body, which, as before obſerved, is what we call a *Wound* (how it is made matters not, and whether it be by cutting or contuſion) the nutritious Juice is immediatly brought to the extremities of the wounded Veſſels

Veſſels all over the Wound. Now I ſtick not to call the ſmalleſt Fiber, or Fibril, a Veſſel; for if they were deſtitute of Cavities, they could never be nouriſh'd, much leſs admit of increaſe. Now all the Medicins us'd in the common Methods of Chirurgery, are of ſuch a nature, as to relax the divided Fibers ſo much, that they cannot contain the nutritious matter brought to them, but let it paſs into the Wound, where it is by the ſame Medicins corrupted, and turn'd into that ſubſtance we commonly call Matter. Now the Corruption of the nutritious Juice cannot be perform'd without a ſort of *Fermentation*; and it is the fermenting Particles, that fretting the Fibers, cauſe inflammations in Wounds; and by entring into the Blood, and dividing its Texture, cauſe *Symtomatic* Fevers, which frequently prove ſo fatal. To confirm the truth of which, I appeal to the experience of all Mankind, who have ever bin wounded (and there is ſcarce one among a thouſand but has received ſome ſort of Wound or other) whether they have not felt pain, and had ſomthing of a Fever, more or leſs, according to the largeneſs of the Wound, during the time that matter was generating. Now it is evident, that whatever will cauſe ſuch ſort of pain, and create a Fever, muſt be of a *heterogeneous* nature, and an Enemy to that Body (for I verily believe, that only the Medicins applied are the occaſion of all thoſe

ill

ill Symtoms that frequently attend Wounds) to which it is applied, or into which it is receiv'd. Of the truth of which, even the nature of a Fever is a ſufficient confirmation: for a *Fever*, in the terms of many great Men, is nothing elſe but a *Nixus Naturæ*, or contention of Nature to throw off its Enemy. Others call a Fever *Sanguipurgus*, or a Purifier of the Blood, which is the ſame with the former, only in different words. And a late learned Author, the worthy Dr. *Cole*, in his Treatiſe of *Intermitting Fevers*, the only rational Piece in my opinion that ever was writ on that Subject, plainly makes it appear, that the ſeat of Agues is in the *Cortex* of the Brain, from whence, at certain periods of time, the matter is thrown off, by the mediation of the Nerves, to all the parts of the Body, which cauſes that Coldneſs, Rigor, and Horror perceiv'd at the beginning of a Fit; this matter being afterwards receiv'd into the Blood by the Capillary Veins, which are every where diſpers'd, and being of a heterogeneous nature to the Blood, puts it into a violent motion and agitation, in order to throw it off: which irregular motion never ceaſes, till all the matter cauſing it is thrown out by the external cuticular Pores. I could uſe many more Arguments, to prove, that not only *Symtomatic* Fevers, but even all ſorts of continued ones, do proceed from heterogeneous Particles being admitted into the Blood, which for brevity's ſake I ſhall omit.

Now,

Now, after they have with ſo much hazard and trouble generated matter (tho many times inſtead of generating matter, their ſuppurating Medicins cauſe Mortifications in the parts, eſpecially if there be an ill habit of Body before-hand; the bad conſequences of which every body knows, but eſpecially to their ſorrow thoſe who have experienced it themſelves) they uſe *mundifying* Medicins; and when Nature is almoſt tir'd and oppreſs'd, weak as ſhe is, they leave her to do her own work: and for my part, I don't at all ſee or underſtand, that ſhe is in the leaſt aſſiſted by the Medicins they afterwards uſe.

But what I have bin hitherto ſaying concerning their Medicins and Practice, relates only to external *Fleſh-wounds*; and if ſuch hazard attends the cure of theſe Wounds, what is to be expected in thoſe within the Cavity of the Body, where the Lungs, Liver, Guts, *&c.* chance to be wounded? In ſuch caſes their Medicins are by themſelves own'd to be inſufficient. And if at any time it happens, that any of the forementioned parts are wounded, and the Party recovers, themſelves account it almoſt miraculous, becauſe ſuch Wounds, by the general vogue of the greateſt Chirurgeons, are accounted mortal, and not without reaſon: For to bring a Wound in the Lungs, Liver, Guts, *&c.* to ſuppuration, is to bring certain Death; and to cure a wound without bringing it to ſuppuration, they don't pre-

pretend. So that if any of the forementioned Wounds are cur'd by them, it is to be attributed to ſom ſtrange and ſecret Operation of Nature unknown to every body, and not to their Skill: for he only is accounted skilful in the cure of any Malady, the moſt of whoſe Patients recover; but ſuch as have not one in ten of their Patients that don't miſcarry, are not to be accounted ſo: And I verily believe, that not one in ten of thoſe wounded in the Cavity of the Body, and managed after the common Methods of Chirurgeons, have recover'd. So I leave it to every man's Judgment, which Method is moſt to be confided in, either that where ſcarce one in ten miſcarries, as in mine; or the other, where not one in ten recovers, as in the common Methods of the Chirurgeons.

Beſides the Inconveniences and Inſufficiences of their Methods and Medicins already mentioned, there is ſtill another as great, *viz.* when any large *Blood-Veſſel* is wounded, how to ſtop the *Flux* of Blood; which is not to be perform'd without either actual or potential *Cauteries*, the inconveniences of which almoſt every body knows: nay, Cauteries themſelves are not to be truſted without very ſtrict bandage, which always, or for the moſt part, cauſes Mortifications; the neceſſary conſequences of which is loſs of Limbs or Life, many times both, as I have ſeen with great regret.

In

In all Wounds, tho but fleſh ones, of any conſequence, they confine their Patients to the loweſt Diet imaginable, forbidding them to eat Fleſh, or drink Wine; and tho there has bin great loſs of Blood before at the Wound, yet they ſeldom or never fail, to the great weakning of their Patients, to let Blood in great quantities, which they often repeat, to prevent the increaſe, and for taking off the Fever, which always more or leſs attends them, and in ſpite of all they can do, frequently proves of fatal conſequence.

I have not mention'd their *Tenting*, *Probing*, and other nonſenſical trumpery, which is ſtill uſed by moſt Chirurgeons, to the great detriment of their Patients, becauſe many judicious Chirurgeons in all places begin to leave them off; who, I queſtion not, will be glad to change their old inſucceſsful way of Practice altogether, when once inform'd of a better and more certain Method.

To give an account of the Methods I uſe in the cure of Wounds, will not take up much room, they being ſhort and eaſy, and not round about, as the common Methods are. However, that I may do it ſomwhat clearly, I ſhall begin with *inciſed* Wounds, ſo called; and next proceed to give an account of *contuſed* ones, made with ſhot or the like: Firſt, where only the *muſcular* fleſhy parts are wounded; and ſecondly, where the *Bones* are broken and ſhatter'd to pieces, and the

Tendons

Tendons torn: which laſt ſort of Wounds I have not touched upon in my account of the unreaſonableneſs of the Methods commonly uſed in the cure of Wounds; for if there be ſuch hazard and trouble in the cure of inciſed Wounds, all will allow, that it muſt be ſo in a much more eminent degree in ſuch Wounds as theſe. Suppoſe a Wound be made with a Sword, or other cutting Inſtrument, the length or depth of which ſignifies nothing; I make a Solution of my *Pouder* in Water, for want of which in Urin: and as ſoon as conveniently I can, the ſooner the better, I either ſqueeze, or with a *Syringe*, if the Wound be deep, inject into the Wound ſom of the ſaid Solution: I then cloſe the Lips of the Wound together, which if wide and large, I ſtitch up. When I have ſo don, I apply a *Pledget* of fine *Tow*, wet in the ſaid Solution, to the Wound, not letting it go into it, but only to cover the edges of it, and lie all over it. And if there chances to be any large *Artery* cut, I hold on the Pledget cloſe with my Hand till the Flux of Blood ceaſes, which will be in a ſmall time, otherwiſe not; afterwards I bind it on with a very eaſy Ligature, then I give my *Tincture* in Wine, and repeat it according to the Directions at the latter end of the Book.

Now to prove my Medicins agreable to the Nature of Human Bodies, and of that Juice by which I conjecture (for to be ſure I cannot) the Body is nouriſh'd, and more efficacious

than

than the Medicins uſed by Chirurgeons, the following Arguments will, I ſuppoſe, evince; they not being the effects of Fancy, but of moſt certain and reiterated Experiments.

Firſt of all, my Medicins never cauſe any Pain, unleſs it be juſt when the external one is ſqueez'd or injected into the Wound, and that pain is very little more than what would be cauſed by uſing Spring-water in the ſame manner.

Secondly, There is no Pain afterwards, but the parts are pliant and eaſy, as if not hurt at all.

Thirdly, if there has bin great Pain before, according as it has bin greater or leſs, ſo it has bin longer or ſhorter before taken off, but the greateſt in a ſhort time. As when a Wound had bin long receiv'd, and had other Applications to it before mine, had bin much inflam'd, and the parts adjacent much ſwell'd, and conſequently the Party in great pain; all theſe Symtoms have bin totally taken off in 24, or 48 hours at furtheſt; and many times in ſuch Caſes, the greateſt Pain taken off in a few minutes. But they have never bin the cauſe of pain, ſwelling, or inflammation; which by the way is a certain argument they are no *Cauſtics*, as ſom maliciouſly and falſly report.

Fourthly, There has never any ſuch thing as a Fever, let the Wound be internal or external, attended any who have uſed my Medicins

cins ſoon after they have bin wounded; but ſeveral who have bin ill manag'd before, and thrown into violent Fevers, have in 24 hours, by the uſe of my Medicins, bin totally freed from them, and that without Blood-letting, or abſtaining from Fleſh or Wine; the more of which they drink, ſo they keep within bounds, I always find them the better.

Fifthly, In all inciſed Wounds, where my Medicins have bin ſoon enough uſed, and no other Application preceded, they are perfectly cur'd in a few days, without ſuppuration; and I have frequently obſerv'd that at about four days end, ſuch Wounds have bin filled with a Subſtance much like *Hartshorn-gelly*, which I have conjectur'd to be young Fleſh; and in two or three days I have found my conjectures true, the ſaid Subſtance being converted into good Fleſh. But where Wounds have bin long receiv'd, and matter generated, they have bin cured in a ſmall time, without repeating the Application above once in three or four days. I have had to do with Wounds long receiv'd, which have bin both deep and large, and by the common Methods muſt have diſcharg'd a great quantity of matter; but the quantity of matter com away after uſing my Medicins has bin ſo ſmall, that I have good reaſon to conjecture, it was no more than what was form'd before they were applied.

As for Gunſhot Wounds in any of the fleſhy parts,

parts, they are cur'd in the ſame manner with the former, and without the leaſt ill Symtom; only with this difference, that wheras in inciſed Wounds, if my Medicins are applied as ſoon as, or preſently after, the Wound is receiv'd, there is little or nothing coms away from them; but in Gunſhot Wounds, the *Glands* and *Lymphatic* Veſſels being broke and torn to pieces, there is for ſom time a conſiderable quantity of the watry matter contain'd in thoſe Veſſels diſcharged out of the Wound; and the loſs of ſubſtance being great, they require a longer time to cure.

But ſom may object, How is it poſſible, without bringing the Wound to Suppuration, to cauſe a diſcharge of extraneous Bodies, as pieces of Clothes, Splinters of Bones, *&c.* which for the moſt part are lodg'd in Gunſhot Wounds?

To which I anſwer, That the ſaid watry Liquor being continually diſcharged out of ſuch Wounds, and the parts adjacent not being ſwel'd, as they never are ſo as to cloſe up the Orifice of the Wounds; by means of the ſaid Liquor they are brought away without any hazard or trouble, and for the moſt part without any pain at all, eſpecially if of a paſſable bigneſs; if not, the Orifice muſt be dilated to make way for them. And as for that *Slough* of which ſom make ſo great a noiſe, it is alſo by means of the Liquor brought away without any digeſtion, it being nothing

but a complication of torn and broken Fibers lodg'd about the ſides of the Wound. As for broken Bones, they being put into their right poſture, the nutritious Juice brought to them fills up the void ſpaces, and by the Texture of its parts in a little time grows as hard as any other part of the Bone. What has bin ſaid of Bones and Fleſh, may be ſaid of Tendons (the wounding of which was heretofore accounted as fatal as any thing; and being of a *mucilaginous* nature, digeſtive Medicins were wont to rot and deſtroy them, and ſo cauſe Mortifications) ſo that their ends, if totally divided, can be brought any thing near together; which if it be not poſſible to be don, as for the moſt part it is, there is no other ill conſequence, but loſing the uſe of that part to which it belongs.

From what has bin ſaid, I think I may rationally infer, that my Medicins are agreable to Nature, and aſſiſt her in her regular Operations: And on the contrary, that the common Medicins are diſagreable to Nature, and hinder her in her Operations.

As for inſtance: Two Officers of the Regiment of *Fuſileers*, that were wounded, were in the ſame Tent together: the one of good Habit of Body, had receiv'd a ſlight Wound in the Arm; his Wound had bin receiv'd three weeks, and was manag'd according to the common Methods; his Arm was much ſwel'd, greatly inflam'd, and he in great pain, and

not like to be well in a long time. The other of a very ill habit of Body, had a Sword run thro the moſt fleſhy part of his Thigh, the Orifices on each ſide 3 Inches long; and yet being managed according to my Methods, in a little above a week was perfectly well, having felt no pain from the beginning.

Their Medicins corrupt the nutritious Juice, and turn it into Matter. My Medicins being friendly to the nutritious Juice, prevent it from degenerating or corrupting; by which it is capable of performing the work deſign'd it by Nature, which is to fill up all Vacuities, either naturally or forcibly made, and is performed in the manner following. The nutritious Juice being by the Arteries brought to the Parts, the Particles of it are by the Pores of the Parts ſo modified, as to form a Body like that thro whoſe Pores it paſt; from whence it is eaſy to imagin, how very large ſpaces forcibly made may be again fill'd up with freſh Subſtance, like what was there before.

Their Medicins cauſe inflammations and ſwellings, and conſequently pain in and about Wounds: Mine not ſo.

Their Medicins either *per ſe*, or by accident, ſeldom or never fail to cauſe Symtomatic Fevers: Mine not ſo; but on the contrary either prevent, or take them off when fixed, without ſtarving and deſtroying Nature for want of neceſſary Aliment.

By their Methods and Medicins they can't ſtop Fluxes of Blood without moſt diſmal Conſequences. My Medicins ſtop Fluxes of Blood with eaſe and ſafety, and at the ſame time cure the Wounds.

To confirm what I have ſaid, I refer to the following Experiments, of the Truth of which 'tis no difficult matter to be inform'd.

To conclude all; I would not have any to underſtand me, as if I poſitively aſſerted, I can cure all ſorts of Wounds, and that no one ſhall miſcarry under my Hands: for whoever dos ſo is greatly miſtaken; and I muſt own there may be a few unlucky Wounds within the Cavity of the Body that may elude the efficacy of my Medicins; yet that moſt of 'em may be cur'd with all the eaſe imaginable. But for External Wounds, let them be what they will, I think there are few or none, if people will be regular, but may be cur'd without hazard or inconvenience.

Experiment I.

John Mahullon, an Iriſh man, in the Regiment of Col. *Brewer*, in the Company of Capt. *Puryſye*, was in a Rencounter run thro the left Arm, and into the left Breaſt between the ſecond and third Rib, on which he preſently fell down as dead. He ſays, he found the Sword paſs into the inmoſt part of his Breaſt

Breaſt. Immediatly he had a great difficulty in breathing, and a weight upon his *Diaphragme*, likewiſe a great quantity of *ſpumous* Blood and Air guſh'd out at the Wound in his Breaſt; which Symtoms, I ſuppoſe, are a clear demonſtration that his Lungs were wounded. Mr. *Chomly*, Chirurgeon to the Regiment, immediatly applied my external Medicin, which ſtopt the Flux of Blood at both parts, which at the Wound in his Arm was alſo very great. But he did not give the internal one, as he ought to have don that Night; ſo his ſhortneſs of Breath, and weight upon his *Diaphragme* continued: but the next Morning giving it him, he was immediatly freed from thoſe Symtoms, and that day march'd on foot ſix miles with the Army, and was not in the leaſt out of order, or had any thing of pain after; neither did he at all confine himſelf to his Tent.

Experiment II.

ONE *Paterſon* a Scots-man, in the Regiment of the Right Honorable the Lord *George Hamilton* (now Earl of *Orkney*) was about 8 a clock one Evening run into the Belly about two Inches above the Navel on the right Side; the Sword, as himſelf and other Spectators ſay, enter'd at leaſt 7 or 8 Inches, and being a very broad one, could not fail of doing

much miſchief. I may conjecture, for to be poſi-
tive no man can, that the Sword paſt thro the
Liver; and the Symtoms attending him do, I
believe, plainly demonſtrate that the *Inteſtins*
were alſo wounded. By his Lordſhip's Com-
mand I was ſent for to take care of him; but
not being at home, Mr. *Chomly* went to him,
and in his Lordſhip's preſence applied the ex-
ternal Medicin, and gave him the internal one
in a large Draught of Wine as uſual. After he
had taken care of him, he immediatly applied
himſelf to find me, to give me an account of
our Patient's condition; but his Account was
ſo ſcurvy a one, that I was ſorry he had med-
led with him, which had I bin there, I ſhould
not have don, by reaſon my whole Reputati-
on lay at ſtake; for it was but two days before
that his Majeſty was graciouſly pleaſed by
public Orders throout the Camp, that notice
ſhould be given to my moſt worthy Friend Sir
Henry Bellaſis, of the firſt Man wounded, that
he might ſee whether I were capable of per-
forming what I pretended to. Now the
Symtoms that attended this Man were violent
Vomitings, and an intolerable Soreneſs and
Pain about his Belly and in his Bowels; and
for that Night he had no reſt at all. In the
morning when the General ſaw him, his cir-
cumſtances were little or nothing better; but
towards the Evening he began to reſt, and
before next Morning his ill Symtoms totally
vaniſhed. For two days he had no ſtool; and

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when he had one, it was ſcarce any thing but coagulated Blood. On the fourth day he was able to go with me to Court, where the General and other Officers ſaw him very well. Beſides the foreſaid Wound, he was alſo wounded in two other places, and much bruiſed, of all which he perfectly recover'd.

Experiment III.

MR. *Lane*, a Voluntier in the Regiment of Sir *Bevil Greenvil*, was in a Rencounter run into the left Pap: the Sword, by all accounts, enter'd a great way into the Cavity of the Breaſt. The Chirurgeon of the Regiment was by Sir *Bevil*'s Order ſent to take care of him, who preſently returned and told Sir *Bevil* that he was a dead Man, and all the World could not ſave him; for that he no ſooner thruſt his Probe into the Wound, but it was beat back by the Pulſation of his Heart: he likewiſe told the ſame to Mr. *Willy* Chirurgeon to Col. *Selwin*'s Regiment, and to ſeveral others; but withal, in a ridiculing manner, ſaid, they might ſend for their famous Doctor, meaning me, and if he could cure him, he would fight Duels every day. I was ſent for, but being ill could not go; ſo I ſent Mr. *Chomly*, who notwithſtanding his ill Circumſtances, being animated by what he had before ſeen, was not afraid to take him into his care;

tho the Symtoms that attended him were as bad as could be, and he alive. He had ſtrong Convulſions, ſhortneſs of Breath, a great Load upon his *Diaphragme*, and a large quantity of *ſpumous* Blood guſh'd out at the Orifice of his Wound, together with ſuch a Blaſt of Air, that it was almoſt equal to an ordinary Pair of Bellows. He applied the external Medicin, and gave him the internal one, which immediatly reliev'd him; but for 48 hours my Friend Mr. *Hamſtead* was forc'd to keep a Guard upon him, for fear the Chirurgeons ſhould do him a miſchief, who before attempted to play me ſom ſlippery Tricks. At the end of which time Mr. *Lane* ſent me word, he could lie on the vvounded Part vvithout the leaſt pain; and that my Friend need not give himſelf any more trouble, he being as vvell as ever in his Life, only vveak vvith the great loſs of Blood: Accordingly my Friend left him. But the next Evening there came betvveen tvventy and thirty Chirurgeons, vvho by violence (I ſuppoſe having before made him drunk) pull'd off the Dreſſings from his Wound, vvith no other deſign, as I can imagin, than to murder him, having applied nothing in its room, but left the Wound bare; in vvhich poſture it continued all Night. My People going next Morning to viſit him, he told 'em the Story; and vvithal ſaid that every thing vvas vvell, his Wound being ſo far heal'd before, that their pulling off the Dreſſings did him no

harm;

harm: hovvever, they made another Application, which, to the beſt of my remembrance, was the ſecond and laſt that was made. But from the beginning he took the Tincture once in five or ſix hours in a large Draught of Wine. I have ſince ſeen him on the long march, walking on foot, when he told me he was as well as ever in his Life. This Man had as ill a habit of Body, as it was poſſible to have.

Experiment IV.

MR. *Fletcher*, a Lieutenant in Col. *Fitz-Patrick*'s Regiment of Fuſileers, was in a Rencounter run thro the moſt fleſhy part of his right Thigh; after the Sword was in up to the Hilt, he and his Antagoniſt clos'd, and fell upon the Ground, where they continued ſtrugling a conſiderable time, the Sword being ſtill in Mr. *Fletcher*'s Thigh: but Company coming in, they parted 'em, and pull'd out the Sword, and ſent for Mr. *Chomly* to take care of him, who when he came, found the Orifices on each ſide at leaſt three Inches long, and very wide; from which proceded a very great Flux of Blood. He firſt ſqueez'd ſom of the Solution of my Pouder into the Wound, then ſtitch'd it up, and applied ſom Pledgets of Tow, wet in the Solution, to both Orifices; afterwards he gave him the Tincture in a glaſs of Wine, which was repeated once in

5 or 6 hours, for three days. In one week's time he was able to walk abroad; he publicly declar'd that from the firſt time my Medicins were applied, he felt no more Pain in or about the Wound, than if he had never bin hurt at all.

Experiment V.

MR. *Pool*, a privat Gentleman in the Honorable Brigadier *Lumley*'s Regiment, in the Troop of Capt. *Billingſly*, was near his Majeſty's Quarters at *Roſebeck*, with a Sword run into the Stomach: he had immediatly a very great Flux of Blood, both at the Wound, and at his Mouth; but that at his Mouth was far the greateſt. Several of the Servants belonging to his Majeſty, who ſaw him bleed, do poſitively declare, that, according to a modeſt computation, he loſt at both places two *Field-meaſures*, which are four Engliſh Quarts of Blood, before my People came to him. He was ſo convulſive, that all who ſaw him, thought it impoſſible for him to live an hour: but my Medicins being us'd according to the uſual Method, the Flux of Blood immediatly ſtopt; and he, as almoſt all my Patients have, declar'd that within a minute or two after taking the Tincture, he found himſelf refreſh'd and reviv'd beyond expreſſion; and preſently his Convulſions left him, and that Night he ſlept very well. On the

the morrow a Rumor, by whom rais'd I know not, was ſpread about the Court, that he was dead; but my Friend Mr. *Sell*, a Page of the Back-ſtairs to his Majeſty, going to the Tent where he lay to enquire into the truth of it, inſtead of finding him dead, ſaw him heartily knawing of tough, ill boil'd Mutton, which he forbad him to do; ſo he left off, but withal ſaid, *Sir, if I muſt not eat, I'll drink to you*; then took up a Quart Pot of ſtrong *Mecklin* Beer, and drank it off. About 3 days after the Army march'd from *Roſebeck* to *Mount St. Andrew*, and he in a Waggon to *Tirlemont*: But next day, there being a Rumor that the Army was to engage, he came from *Tirlemont* to the Camp. His Captain asked him what he did there; he anſwered, *That he came to fight*: the Captain replied, *Sure you have enough of Fighting already*; *No*, ſays he, *I fear not Fighting now, and tho I was ſo lately wounded, and loſt ſo much Blood, I am as able to fight as any Man in the Regiment.* This Diſcourſe between his Captain and him he told me of on Sunday Morning, which was but five days after he was wounded. About three days after he was ſeen by his Majeſty and ſeveral great Officers, being then very well, and ſo continu'd till I left the Camp.

Experiment

Experiment VI.

A Privat Soldier, in the Regiment of Col. *Collingwood*, had with a broad Sword, his *Sternum* or Breaſt-bone divided; the Sword likewiſe paſt into the Body of his Lungs. From the Wound guſh'd forth ſuch a vaſt Quantity of Blood and Air together, that Mr. *Chomly* declared, he could ſcarce with his Hand keep on a Dreſſing; ſo to bring the Lips of the Wound together, with a Needle and Thred he ſew'd up the Wound; but the Force of Air was ſo great, the Flux of Blood being before ſtopt by my Medicins, that he was forc'd to make his Stitches in the external part of the Bone, which is griſtly, the Skin not being ſtrong enough to hold them. The Man was for that Night attended with moſt dangerous Symtoms; but on the morrow, continuing to take the Tincture, they left him: He ſtaid in the Camp three days very well, only weak with the great loſs of Blood. The Army being to march, his Weakneſs was ſuch that he could not walk far on foot; ſo, contrary to my knowlege, he was ſent to the Hoſpital, but wanted no other aſſiſtance there, than to recover his Strength: He ſtaid there ſom ſmall time, but is ſince return'd to the Camp vigorous and well.

Experiment

Experiment VII.

A Privat Soldier, in the Regiment of Sir *James Leſley*, was alſo wounded in the Lungs; and Sir *James* himſelf told me he was by ſeveral Chirurgeons given over for dead. His Wound had bin a Fortnight or more receiv'd, and was in a very ill Condition: he had a great quantity of Blood diſcharg'd into the Cavity of his Breaſt, which lying there ſo long, vvas degenerated into the moſt ſtinking ſort of *Pus* or Matter; and had likewiſe a moſt violent Fever. Yet notwithſtanding his Condition vvas ſuch, by the repeated uſe of my Tincture, he was in 24 hours freed from his Fever, and had all the corrupted Matter thrown out of his Breaſt; and his Wound, by twice applying my external Medicin, in a week's time vvas cur'd.

Experiment VIII.

MR. *Wright*, a Quarter-maſter in the Regiment of Col. *Langſton*, vvas vvith a Sword run in juſt below the right Arm-pit; the Sword paſt thro the middle of the Lungs about ten Inches. He had immediatly a great Flux of Blood, both at the Wound and at his Mouth,

Mouth, vvith a great ſhortneſs of Breath, and violent Convulſions. Lieut. Col. *Morton* being at hand, and having ſom of my Medicins by him, ſent his Man for them; vvhich vvhen he had brought, he gave him Directions how to apply them. The Colonel told me afterwards, he never ſaw ſo ſudden, and ſo great an Alteration in any one in his Life: For that juſt before he took the Tincture, he had ſo violent Convulſions, and ſuch a ſhortneſs of Breath, that himſelf and all that ſaw him, thought him near expiring; but in a few minutes after taking it, thoſe Symtoms totally left him. But the poor Gentleman fearing ſomthing might be omitted, ſent for me; but I being otherwiſe buſy, ſent Mr. *Chomly* and Mr. *Hamſtead* to him, vvho found every thing vvell: but for ſecurity, Mr. *Hamſtead* ſtaid that Night vvith him, and in the Morning brought me vvord, that for the firſt part of the Night he vvas ſomwhat reſtleſs; but about two a Clock he began to ſleep, and continued ſleeping till he came away. That day I vvent to viſit him, and found him in a very good condition, free from a Fever, or any diſorder in or about his Wound; only he ſpit Blood a little, vvhich, I ſuppoſe, vvas occaſion'd by a Cough he had for ſeven Years before, vvhich being violent, beſides the ordinary Motion of his Lungs, muſt neceſſarily much impede the healing of 'em vvhen vvounded: Notwithſtanding vvhich, in four or five days he vvas

able

able to vvalk abroad, being very vvell, only vveak vvith great loſs of Blood. Six weeks ſince he vvas vvounded, I frequently ſaw him at *Ghent*, vvhen he told me, he vvas as vvell as he had bin for ſeveral Years.

Experiment IX.

A Soldier in the Regiment of the Right Hon. the Lord *George Hamilton* (now Earl of *Orkney*) being out a foraging, vvas vvith a Bullet, or rather tvvo, ſhot thro the back part of his Hand; the Bones of the *Meta Carpus* vvere all ſhattered to pieces, and the *Tendons* much torn, vvhich vve could plainly ſee, the Wound being ſo very vvide. It vvas firſt dreſt by Mr. *Willy*, Chirurgeon to Col. *Selwin*'s Regiment, being receiv'd about ten a Clock in the Morning. I being that Afternoon at his Majeſty's Quarters, my Lord told me of the Accident, deſiring me to take care of the Man: Accordingly, about nine in the Evening, I vvent to his Tent, and ſent for Mr. *Willy*, vvho told me, that the Man's Hand, by the common Methods, could not be ſav'd; but if I could do it, he vvould ſtand my Friend againſt all Oppoſers: So I requeſted him to pull off his Dreſſings, vvhich vvere only Pledgets of dry Tow; vvhich having don, Mr. *Chomly* applied my external Medicin, and gave him the Tincture in a large

Draught

Draught of *Old-hock*. His Hand and Arm vvere much ſwel'd and inflam'd, and he in moſt intolerable Pain. On the morrow I vvent again to ſee him, and found both Swelling and Inflammation gon, and he at eaſe. About four days after Mr. *Chomly* opened the Wound, to make a freſh Dreſſing, vvhich vve found in a very good Condition, and not in the leaſt digeſted, or brought to Suppuration: but a thin ſerous Matter, a little tinged with Redneſs, vvhich I ſuppoſe to be diſcharged out of the Glands and lymphatic Veſſels, came away, which when it had lain ſom time upon the Dreſſings, vvas ſubject to ſtink; but that which came freſh out of the Wound, was as ſweet as a Roſe: This Subſtance vvas quite different from vvhat vve call *Gleet*. The next time it vvas dreſt, it look'd better than before, and he could begin a little to ſtir his Fingers; at this Dreſſing (his Comrade next to be menti-on'd being alſo then dreſt) a great many Gentlemen and Chirurgeons out of Curioſity were by, vvho all declared they never ſaw any Wounds look ſo vvell in their lives; and then he could ſtir all his Fingers. Within a fevv days the Army began to march, and he vvalk'd every Day of the long March, unleſs it vvas the firſt, vvhen I got leave for him, and his Comrade in Affliction, to ride three or four miles. Before vve came to the end of the long March, he told me he could lay the vvounded Hand on the Back of a Horſe of 15 Hands

Hands high, and without any other assistance, leap upon his Back. He had at several times at least fifty small pieces of Bones came away; and after they were all discharged, his Hand was suddenly well.

Experiment X.

ANother Soldier of the same Regiment was at the same time wounded in three places of his Body. He had two Bullets, at about an Inch and half distance, enter'd near the middle of his Back on the right side, and were cut out by Mr. *Willy* about seven Inches from their Orifices on the same side. Another Bullet enter'd a little below on the same side, and was cut out just above the Navel, being about nine Inches from its first Entrance. Tho the other two had not, grazing upon the Ribs, yet I have great reason to believe this did penetrate the Cavity of the Body. This Man we found in most intolerable Misery, having a violent Fever; and the last mentioned Wound, in all appearance, began to mortify, both Orifices looking very black, and a very ill smell coming from them. Mr. *Chomly* applied my external Medicin, and gave him the Tincture, which, according to Custom, was repeated in five or six Hours. His Pain and Fever lasted about 30 Hours, when they both left him, and in three or four Days he walked abroad.

When he was next dreſt, which was about four Days from the firſt Dreſſing, the two firſt Wounds look'd very well, but the laſt not ſo well. But at the third Dreſſing there came out of the laſt Wound many Pieces of his Clothes, and that without any Digeſtion at all, only a great Quantity of the forementioned ſerous Matter came from all the Wounds. In about 3 Weeks all the Wounds were filled with good Fleſh, and only wanted skinning; but being forc'd to march with the Army on Foot for many Days together, the great Motion of his Body, with the moving of his Clothes, fretted the wounded Parts, and kept them from skinning, and likewiſe caus'd a little proud Fleſh to grow up, which, when he came to have a little Reſt, ſoon vaniſhed, and the Wounds were preſently well.

Experiment XI.

AN Enſign in the Honorable the Lord *Bel caſtle*'s Regiment, in defending a Pa againſt a Party of *French*, was with a Muske Bullet wounded in the Head; it entred a litt below the Temple, paſt on, and tore the *tem poral Artery* aſunder, and graz'd further on th Skull about four Inches. By his Majeſty Order I went to take care of him; when came, I found he had bin dreſt by the Chiru geon of the Regiment, whom I ſent for to p

off his Dreſſings, which were hard Doſſels of Tow dipt in Spirit of Wine, he having cram'd the Wound, which was an Inch wide, with 'em as full as it could hold. After his Dreſſings were off, Mr. *Chomly* applied my external Medicin, and gave him the Tincture. His Head and Face were much ſwel'd, and he ſomthing feveriſh. On the morrow I went to viſit him, when the Swelling was quite gon, and his Fever left him; and in about a Fortnight, his Wound, tho ſo wide, without being brought to Suppuration at all, was perfectly well. In the mean time he never confin'd himſelf to his Tent, but march'd on Foot with the Army, and declared, that from the time my Medicins were applied, he felt no more Pain, than if he had never bin hurt.

Experiment XII.

A Privat Soldier in the Regiment of the Honorable Major Gen. *Le Mullinier*, was wounded at the ſame time with the foremention'd Officer; but of him I had no notice till the Morrow, when the Major General, I being at the Officer's Tent, ſent to me, deſiring me to take care of him. I found he had before bin dreſt by the Chirurgeon of the Regiment; for whom I ſent to pull off his own, and apply my Medicins, Mr. *Chomly* not being with me. The poor Man had one

Musket Ball enter'd at the corner of his right Eye, and paſſing thro the *Os Spongioſum*, or ſpungy Bone of the Noſe, came out at the left Eye, tearing that all to pieces. Another Bullet enter'd at the laſt Orifice, paſt thro the upper *Mandible*, or Jaw-Bone, and came out at the corner of the under one. Theſe two Wounds were cram'd as full as they could hold with hard Doſſels dipt in Spirit of Wine, which I order'd to be pulled out: which tho perform'd with the greateſt difficulty imaginable, and putting the poor Creature to moſt intolerable Pain; yet his Bravery of Spirit was ſuch, that he never ſo much as ſmayed at it all the time it was doing. After the Chirurgeon had, as he ſaid, pull'd out all the Doſſels, I deſired him to inject ſom of the Solution of my Pouder thro both the Wounds; thro the firſt it paſt very well: and tho we tried at both the upper and lower Orifice of the laſt, we could not get any thro; ſo I concluded there muſt be ſtill ſom Doſſels behind, as it afterwards appeared; but the Wound being very deep, he could not com at any of 'em with his *Forceps*; ſo we were forced to bind it up as it was. His Head and Face were ſwel'd to ſuch a prodigious Bigneſs, that he look'd like a Monſter; he had likewiſe a violent Fever, which by the taking of my Tincture was ſoon abated, and in two Days the Swelling of his Head and Face was quite gon down, and he free from any Pain at all, tho there were

ſtill

ſtill 3 large hard Doſſels left in the laſt Wound. About five Days after he was wounded, the Army began to march, and he on Horſe-back went the whole March; and tho expoſed to Wind and ill Weather, felt no Pain or Diſorder in or about his Wounds. About the ſixth Day of the March, Mr. *Chomly* having pull'd off the Dreſſings to make freſh ones, the Doſſels of the thickneſs of a Man's Thum came out at the upper Orifice of the laſt Wound; without any trouble or pain at all: At that time the lower one was almoſt clos'd up, and afterwards the upper one began to mend apace; in a little time his Wounds were cured, and he is now in this City very well, his Face not in the leaſt disfigured, only by the loſs of his Eye.

Experiment XIII.

MR. *Lorridg* a Lieutenant in the Hon. Brigadier *Lumley*'s Regiment, in a Rencounter receiv'd a ſlight Wound under the right Arm-pit, the *Axillary* Artery being alſo prick'd; on which enſued a large Flux of Blood, which was ſoon ſtopt, or rather pent in, by Mr. *Engliſh*, Chirurgeon to the Regiment. He was about a Month manag'd by Mr. *Engliſh*, and Mr. *Hall* principal Chirurgone to the Engliſh Hoſpital: After which he had a freſh Flux of Blood; and before he had

any Help, I ſuppoſe by what I ſaw in the Bed and in his Breeches, he loſt 7 or 8 Pound o Blood: At laſt the Chirurgeon's Mate of th Regiment coming, with a very ſtrait Liga ture ſtopt the Bleeding; and then ſent fo Mr. *Hall*, who immediatly came, but ſeein how the caſe ſtood, ſent for ſom of the moſ eminent Chirurgeons in *Ghent*, where th Lieutenant then was, to his aſſiſtance. The were at leaſt 5 hours uſing their utmoſt En deavors to ſtop the Flux of Blood, which, th they ſeveral times uſed red hot Irons, the could not do. At laſt Mr. *Hall* came to me and deſired me to go along with him; which tho I knew that on all occaſions he had ſpoke reproachfully of me, I readily granted. Whe I came, I found the poor Gentleman in a de plorable condition, his Arm being moſt prodi giouſly ſwel'd, and abſolutely mortified b their hard Ligature, from his Fingers ends t his Shoulder, and his Spirits ſo exhauſted b the loſs of Blood, and the intolerable Pai they had put him to, that it was impoſſible h ſhould ſurvive many hours: yet when the L gature was never ſo little looſned, the Blo ruſh'd forth as violently, as I believe it h don at all. However, to be ſerviceable to honeſt Gentleman in diſtreſs, in any mann I could, I prepar'd my external Medic which Mr. *Hall* applied; then I order'd t Ligature to be undon, and the Blood ſeem to be ſtopt: but in a minute, or therabouts, ſm

ſmall quantity iſſued forth, which we concluded was occaſion'd by the Medicin's not ſufficiently coming to the Mouth of the Artery, which was ſo drawn up, the Artery being then totally divided, that the end of ones Finger would ſcarce reach it; but be it how it would, for ſecurity we pull'd off that Dreſſing, and made a ſecond, which totally ſtopt the Flux of Blood, without any Ligature or Compreſs at all. He lived about 5 Hours after; and tho he was very reſtleſs, and ſtrugled much, yet there did not one Drop of Blood more appear. I only mention this Experiment, to demonſtrate on what ſlight Occaſions many loſe their Lives by the common Methods, and how eaſily ſuch Accidents may be prevented, if my Medicins are timely enough, and regularly uſed; as in the caſe of this poor Gentleman: for had my Medicins bin uſed before his Arm was mortified by their hard Ligature, the Flux of Blood would eaſily have bin ſtopt; and then he could not, morally ſpeaking, have miſcarried.

Experiment XIV.

I Being at a Coffee-houſe in *Ghent*, Sir *Wil. Ruſſel*, a Captain in the Regiment of Col. *Coy*, came to me, and deſired me to meet him in the Afternoon at a Tavern, to look on a Man's Hand of their Regiment that was hurt, which I readily granted. According to pro-

miſe, I went, and found him and the Trooper together. After I had examin'd the Man about his Wound, which had bin receiv'd a Fortnight, his Hand and Arm being mightily ſwel'd and inflam'd, and he in moſt intolerable Pain, I deſir'd him to ſend his Comrade for the Chirurgeon, who had before look'd after it, which accordingly he did; but the Chirurgeon either would not, or was aſham'd to com. So, at his requeſt, I open'd the Wound my ſelf, which I found in a moſt lamentable condition, and beginning to mortify. The Sword enter'd about the middle of the Palm of his Hand, and came out at the top of his Wriſt, the two Orifices being about 6 Inches aſunder. The Wound being ſo very deep, I ſent my Boy for a Syringe, with which I injected ſom of the Solution of my Pouder thro the Wound, and afterwards gave him a large Doſe of the Tincture in a Glaſs of Wine. We had not ſat above a quarter of an hour, but the poor Man pul'd off his Hat, returning me Thanks in the moſt affectionat manner imaginable, ſaying, *Sir, when I came into your Company, I was in moſt intolerable Pain and Miſery, from which I was not to expect deliverance but by the loſs of my Arm; but am now as much at eaſe as ever I was in my Life.* This was about the 23*d* of *September*; and ſince my return to *England*, I received a moſt obliging Letter from Sir *Will. Ruſſel*, dated the 3*d* of *October*, wherin he tells me, that con-

contrary to his expectation, the Man's Hand was perfectly well.

I could add a great number of Cures wrought both in *London*, and other Parts of *England*, since the first publishing this Tract; but such as will not be convinc'd by those already mention'd, will not, should I add a hundred more.

Directions *for the use of the* Vulnerary Pouder, *and of the* Tincture *of the Sulphur of* Venus.

SUch a Quantity of the Pouder as will lie on a Silver Penny, may be dissolv'd in a full Spoonful of warm Water; where that cannot be had, you may take Urin. In this Solution you may wet a Pledget, made either of fine Tow or Lint, with which lightly dab the Lips of the Wound, and then squeeze a small quantity of the Solution into it. Then you may apply your Pledget, and bind it on. If the Wound be an incised one, after the Medicin is squeez'd into it, it will be convenient to stitch the Lips together with a Needle and Thred, and then apply the Pledget. Now in incised Wounds, when these Medicins are applied as soon, or a little after the Wound is received, one Dressing is for the most part sufficient, but two are as many as ever need be used; the second Application to be made at the end of 3 or 4 Days: But in Gunshot Wounds, or where there is great loss of Substance, more Dres-

Dreſſings are needful, and to be repeated once in about 4 Days. If the Wound be very deep, whether it be an inciſed or a Gunſhot one, inſtead of ſqueezing in the Solution, it is neceſſary it be injected with a Syringe.

As for the Tincture, in all very large fleſh Wounds, and thoſe within the Cavity of the Body, it ought to be taken once in 5 or 6 hours, and continued 4 or 5 days: The Doſe is half a Spoonful in a Draught of any good Wine, but *Old-Hock* I find beſt. In ſlight Wounds to be taken twice a Day for 2 or 3 Days: Tho if it be taken longer it can be no way prejudicial, but the contrary.

In great Fluxes of Blood it will be convenient to hold on the Pledget wet in the Solution with your Hand, till the Flux ceaſes, which in the greateſt Fluxes will generally be in a ſmall time; and afterwards to uſe very eaſy Bandage.

I have obſerved, that in thoſe Wounds where there is little or no Flux of Blood, the weaker the Solution is made, the better; and where there are large Fluxes of Blood, for the ſtopping of 'em the Solution muſt be made as ſtrong as may be: but after that is don, a weak Solution will ſooner finiſh the Cure than a ſtrong one.

Where there is only a *Cicatrix* wanting, or for the Cure of old Ulcers, I have found a ſmall quantity of the Pouder diſſolv'd in the White of an Egg (which it will immediatly turn into a ſtiff *Gelatinous* Subſtance) to do much better than when diſſolv'd in any other Liquor.

Novum